

SolarInnovate Energy Solutions

Three-phase inverters in parallel



Overview

In this phase disposition technique, the four carrier signals are compared to the reference signal. These four carrier signals are having equal amplitudes and in phase each other. To generate appropriate pulse.

How to control a three-phase inverter?

The PWM control technique is the most effective control scheme for controlling the three-phase inverter. In this proposed method, carrier-based PWM schemes are used such as PD, POD, and APOD have been applied. These are also called constant frequency techniques; generation switching pulses for an N level inverter, an $N - 1$ carrier is required.

Can MC-PWM control a three-phase parallel inverter?

In this article, the three-phase parallel inverter can be controlled by MC-PWM (APOD, POD, and PD). The inverter performance can be evaluated in terms of THD. The block diagram of the proposed system is shown in Fig. 1. The proposed inverter circuit includes three single-phase five-level inverters.

What is a three-phase five-level inverter?

Three single-phase five-level inverters are given to the 12 terminal of the three-phase transformer, and the neutral points are shorted. The key merits are that it obtains a higher output voltage with a reduced number of active devices, transformer, DC input source, and simplified control circuits.

What are the problems with parallel 3p2l inverters?

Another problem is the common-mode voltage (CMV), which causes electromagnetic interference and threatens the safe operation of the system. There exists interconnection between these two issues in the paralleled 3P2L inverters. To suppress the CMV and circulating current simultaneously, an improved control method is presented.

Why do three paralleled inverters have the same capacity?

Although three paralleled inverters have the same capacity, the filter

inductances are chosen to be different, and the reasons are explained as follows. According to the theoretical designing rule of inverter parameters, the values of filter inductances are the same for the inverters with the same capacity.

How does a single phase inverter work?

Each single-phase inverter is generated 325 V from the DC link when gating pulses are applied from the control circuit. The voltage of the DC link is supposed to be greater than the inverter output voltage ($> \sqrt{2} \times V_o$). Failing to meet this condition, an inverter is unable to guarantee the power flow to the load.

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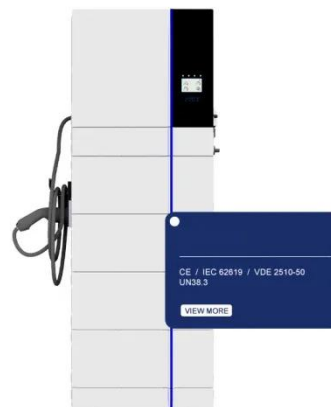


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